

IN THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. This listing of claims will replace all prior versions and listings of claims in the present application.

Claim 1 (Currently amended) A power supply circuit which is connected to a battery having an overcurrent protective device, said power supply circuit comprising:

a capacitor which is connected in parallel to said battery to be charged by said battery;
and

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a restricting device that includes a microcomputer comprising a voltage detector, a memory and a comparator, said restricting device restricting ~~which restricts~~ an output current of said battery so that said output current of said battery is not interrupted by said overcurrent protective device while said capacitor is being charged with said battery.

Claim 2 (Canceled)

Claim 3 (Currently amended) The power supply circuit according to claim 2 8, wherein said restricting device restricts said output current of said battery in accordance with said terminal voltage detected by said voltage detector so that said output current of said battery becomes maximum within a range in which said overcurrent protective device is not actuated to interrupt said output current of said battery to said power supply circuit.

Claim 4 (Currently amended) A power supply circuit which is connected to a battery having an overcurrent protective device, said power supply circuit comprising:

a capacitor which is connected in parallel to said battery to be charged by said battery;

a voltage detector which detects a terminal voltage across said capacitor; and

a restricting device that includes a variable resistor via which said battery is connected to said capacitor, and a controller which controls said output current of said battery by varying a resistance value of said variable resistor in accordance with said terminal voltage detected by said voltage detector, said restricting device restricting an output current of said battery so that said output current of said battery is not interrupted by said overcurrent protective device while said capacitor is being charged with said battery,

wherein said variable resistor comprises a plurality of resistors and a corresponding group of switches for switching ON/OFF states of said plurality of resistors.

~~The power supply circuit according to claim 2, wherein said restricting device comprises:~~

~~—— a variable resistor via which said battery is connected to said capacitor; and~~

~~—— a controller which controls said output current of said battery by varying a resistance value of said variable resistor in accordance with said terminal voltage detected by said voltage detector.~~

Claim 5 (Currently amended) The power supply circuit according to claim 2 4,
wherein said ~~restricting device comprises:~~ a plurality of resistors are connected in
parallel ~~via which said battery is connected to said capacitor;~~

wherein a plurality of switches with which each of said plurality of resistors can be
connected to and disconnected from one of said battery and said capacitor using said group
of switches; and

wherein said a controller ~~which~~ controls said plurality group of switches
independently of one another ~~in accordance with said terminal voltage detected by said~~
~~voltage detector.~~

Claim 6 (Canceled)

Claim 7 (Currently amended) The power supply circuit according to claim 2 8,
wherein ~~said restricting device comprises:~~


~~— a field effect transistor via which said battery is connected to said capacitor~~ via the
field effect transistor; and

wherein said a controller ~~which~~ controls said output current of said battery by
controlling a the voltage across a the gate and a the source of said field effect transistor in
accordance with said terminal voltage detected by said voltage detector.

Claim 8 (Currently amended) A power supply circuit which is connected to a
battery having an overcurrent protective device, said power supply circuit comprising:

a capacitor which is connected in parallel to said battery to be charged by said battery;
a restricting device that includes a transistor and a controller that controls a base
voltage of said transistor, the restricting device restricting an output current of said battery
so that said output current of said battery is not interrupted by said overcurrent protective
device while said capacitor is being charged with said battery; and
a voltage detector which detects a terminal voltage across said capacitor,

wherein said restricting device restricts said output current of said battery in
accordance with said terminal voltage detected by said voltage detector;

 ~~The power supply circuit according to claim 2, wherein said restricting device~~
~~comprises a transistor, wherein a collector of said transistor is connected to a gate of said a~~
field effect transistor while an emitter of said transistor is connected to ground, and

wherein said controller controls said voltage across said gate and a source of said field
effect transistor by controlling a the base voltage of said transistor.

Claim 9 (Currently amended) The power supply circuit according to claim 8,
further comprising:

a plurality of resistors; and

a plurality of switches which are turned ON and OFF so that a base of said transistor
is selectively connected to ~~and disconnected from~~ said ground via said plurality of resistors,
respectively;

wherein said controller controls said base voltage of said transistor by changing ON/OFF states of said plurality of switches.

Claims 10-22 (Original)

Claim 23 (Currently amended) The power supply circuit according to claim 4 \dagger , wherein said capacitor comprises an electric double layer capacitor.

Claim 24 (Currently amended) The power supply circuit according to claim 4 \dagger , wherein said battery comprises a rechargeable battery.

Claims 25-26 (Canceled)

Claim 27 (Currently amended) A power supply circuit which is connected to a battery having an overcurrent protective device, said power supply circuit comprising:
a capacitor which is connected in parallel to said battery to be charged by said battery;
a voltage detector which detects a terminal voltage across said capacitor; and
a restricting device that includes a variable resistor via which said battery is connected to said capacitor, and a controller which controls said output current of said battery by varying a resistance value of said variable resistor from a high resistance value to a low resistance value as said terminal voltage detected by said voltage detector increases, said restricting device restricting an output current of said battery so that said output current of said battery is not interrupted by said overcurrent protective device while said capacitor is being charged with said battery.

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R ~~The power supply circuit according to claim 4, wherein said controller controls the resistance value of said variable resistor from a high resistance value to a low resistance value as said terminal voltage detected by said voltage detector increases.~~
